

Title: PRODUCTION OF OLIGOSACCHARIDES IN
TRANSGENIC PLANTS

Inventors: J.C.M. Smeekens et al.

Docket No.: ARNO121867

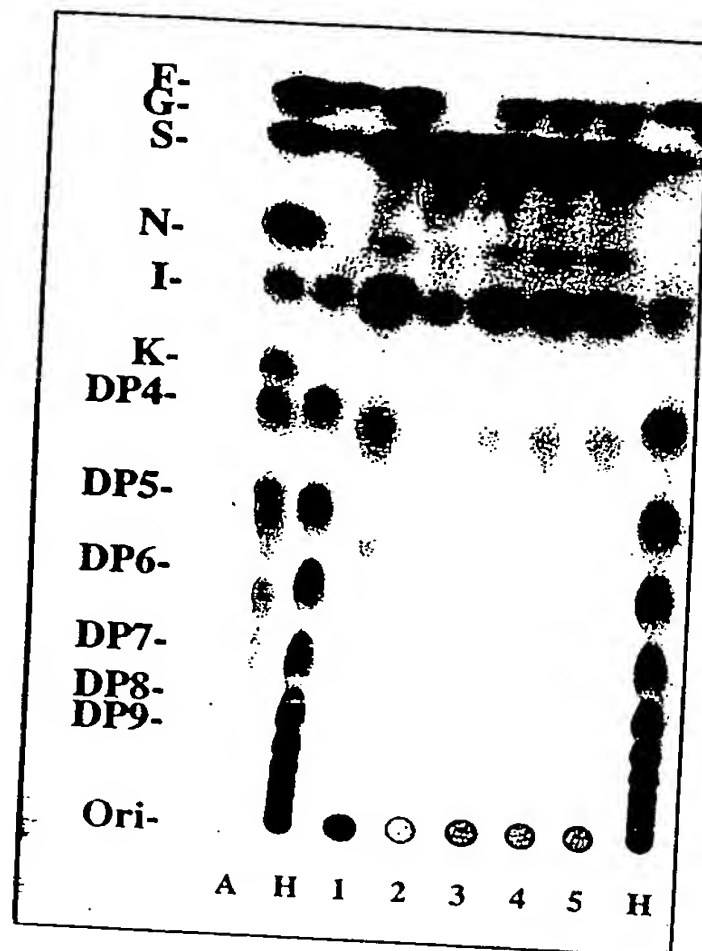


FIG. 1

Title: PRODUCTION OF OLIGOSACCHARIDES IN
TRANSGENIC PLANTS

Inventors: J.C.M. Smeeckens et al.

Docket No.: ARNO121867

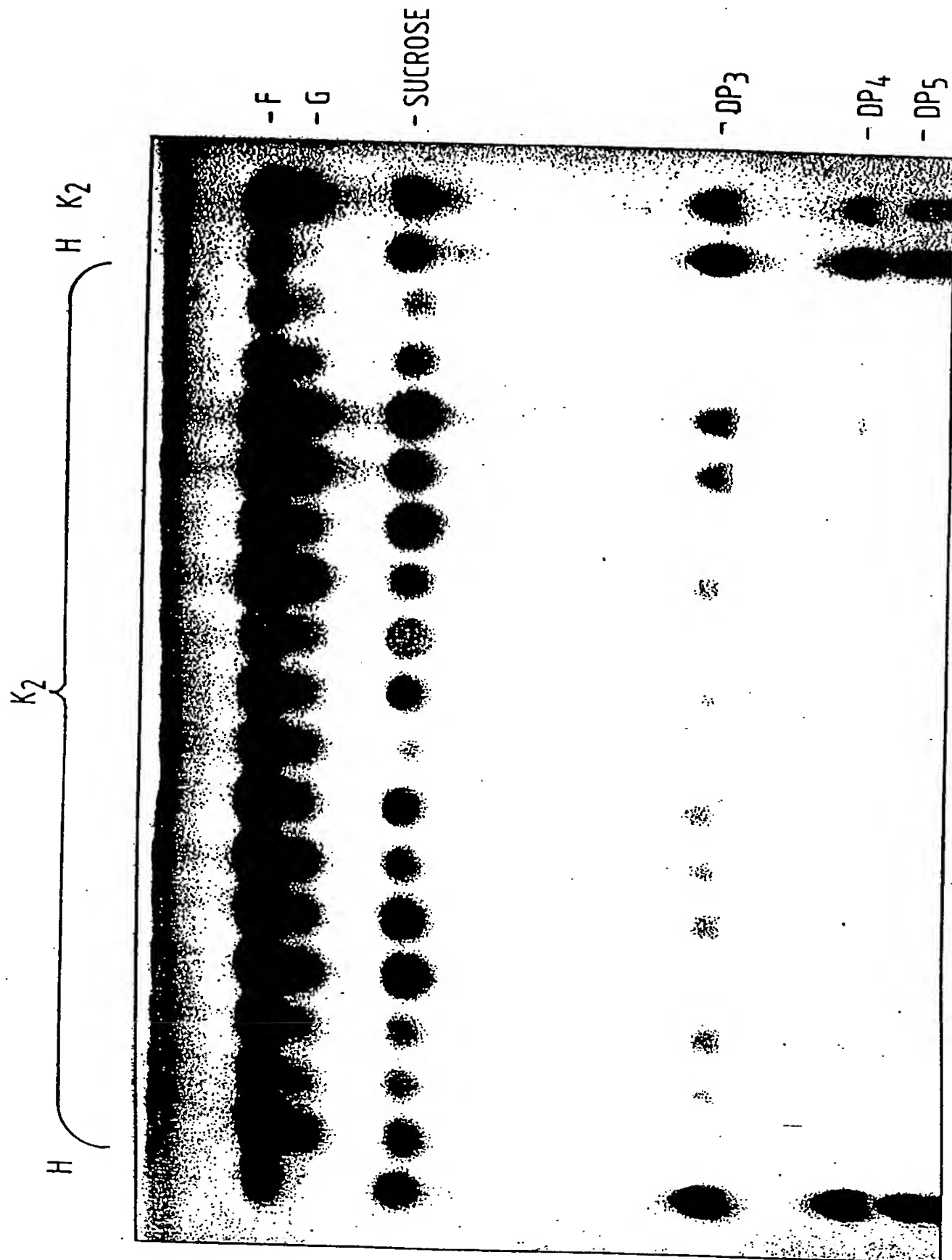


FIG. 2

Title: PRODUCTION OF OLIGOSACCHARIDES IN
TRANSGENIC PLANTS

Inventors: J.C.M. Smeekens et al.

Docket No.: ARNO121867

SDS-PAGE OF SST FROM ONION SEED

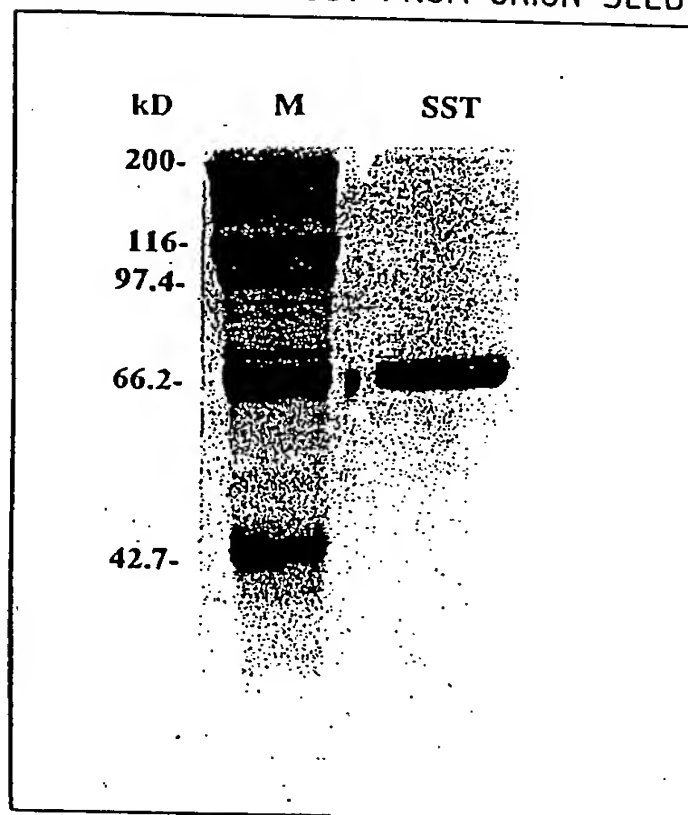


FIG. 3

Title: PRODUCTION OF OLIGOSACCHARIDES IN
TRANSGENIC PLANTS

Inventors: J.C.M. Smeekeens et al.

Docket No.: ARNO121867

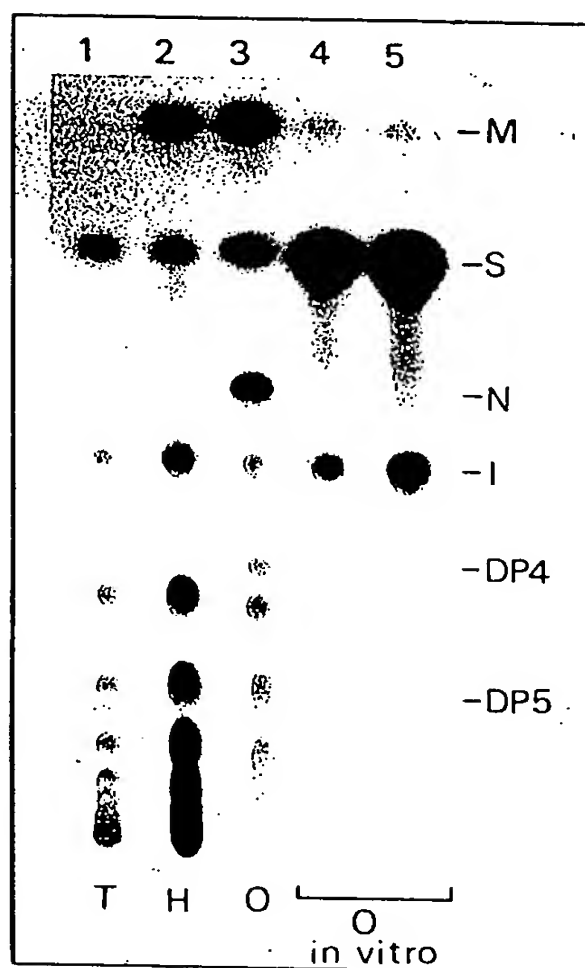
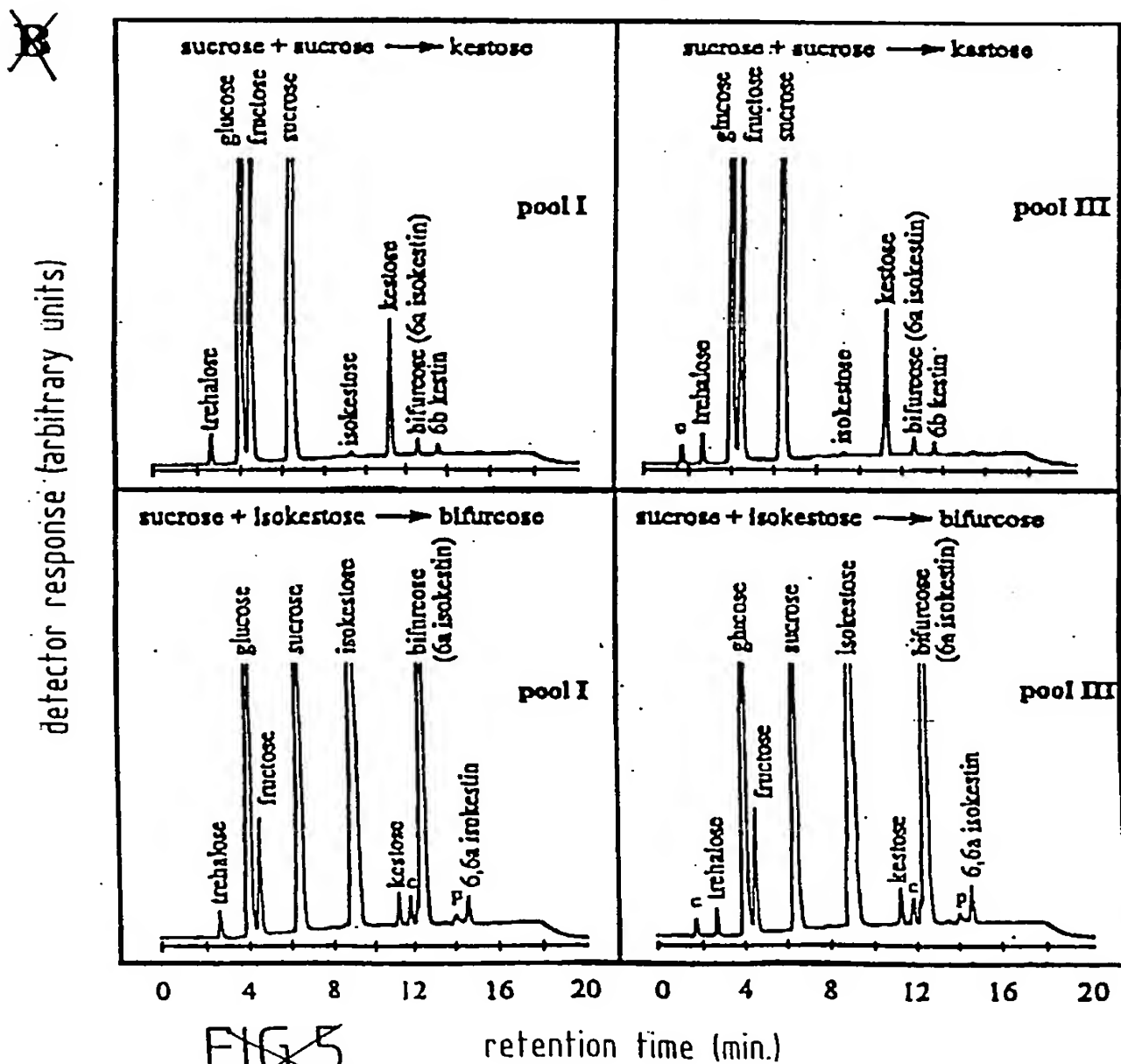
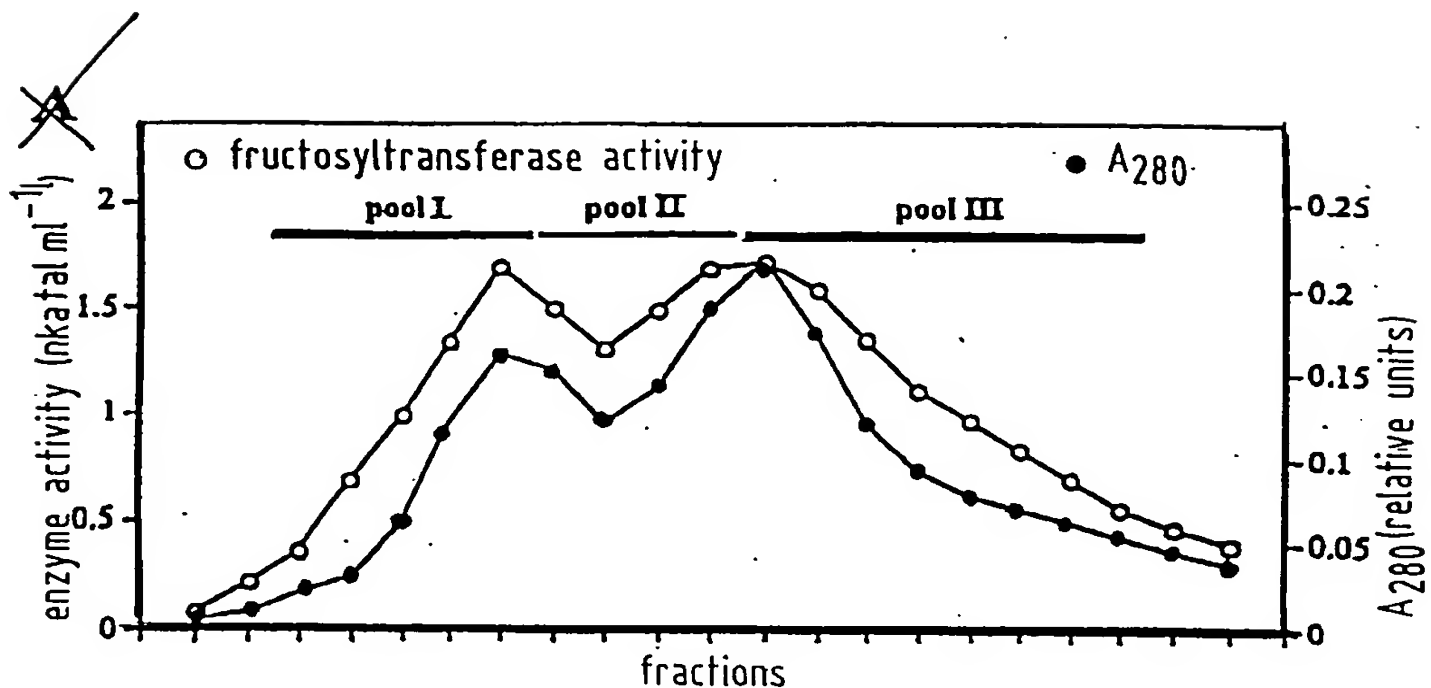


FIG. 4

Title: PRODUCTION OF OLIGOSACCHARIDES IN
TRANSGENIC PLANTS

Inventors: J.C.M. Smeekeens et al.

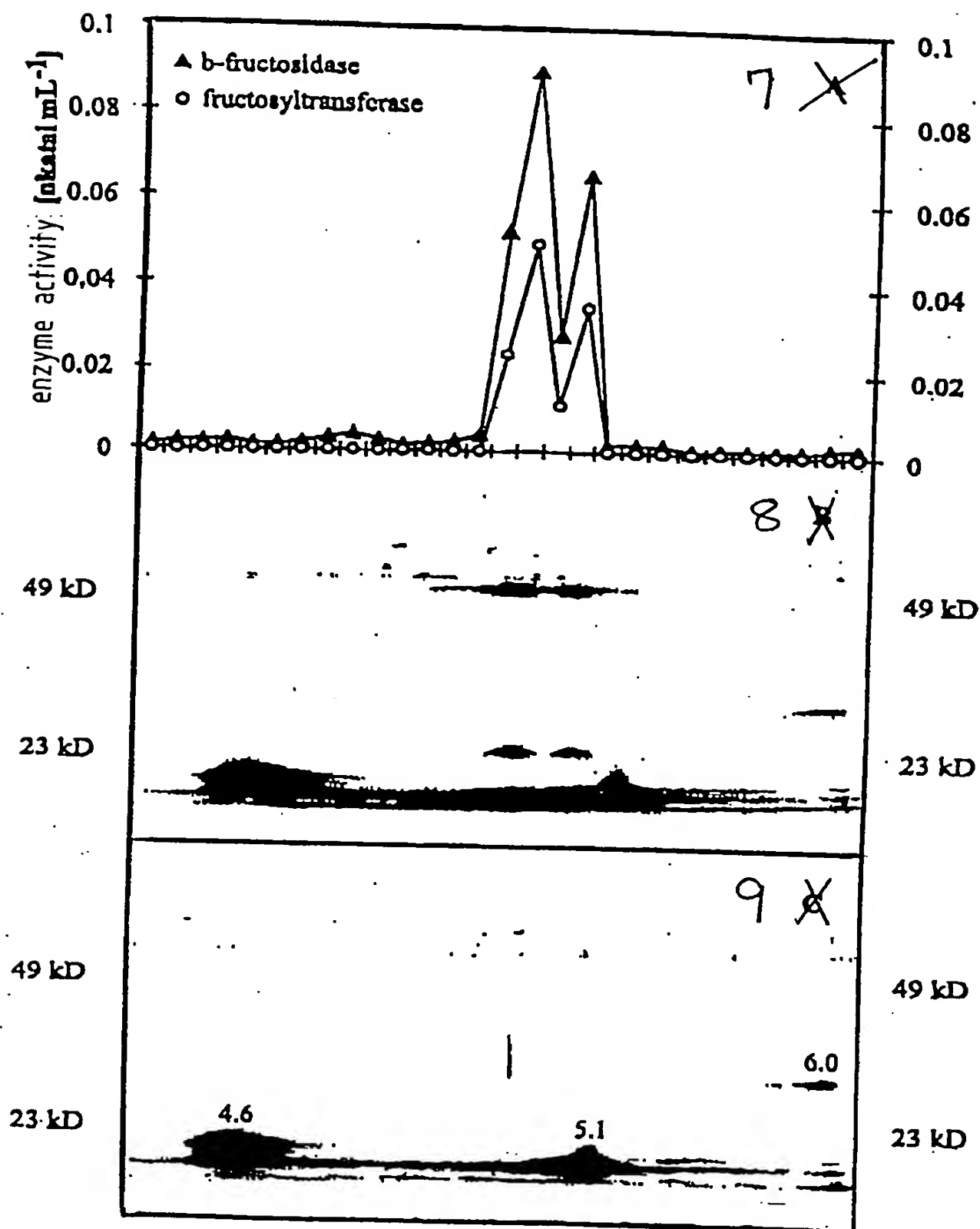
Docket No.: ARNO121867



Title: PRODUCTION OF OLIGOSACCHARIDES IN
TRANSGENIC PLANTS

Inventors: J.C.M. Smeekens et al.

Docket No.: ARNO121867



FIGS 7, 8, 9

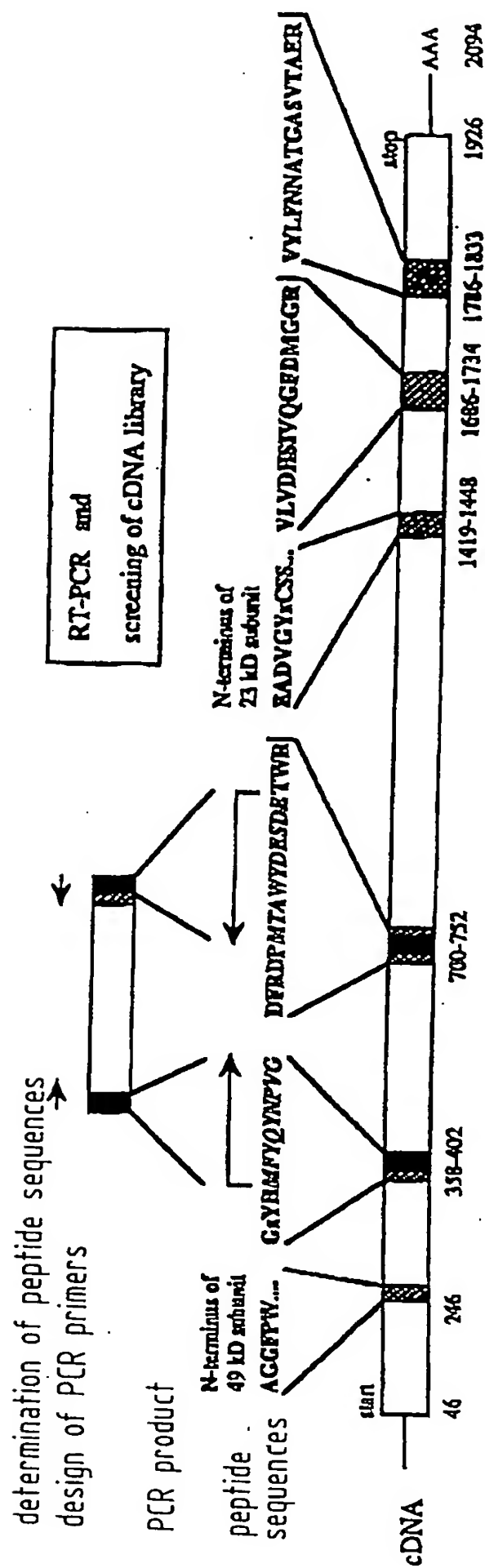


FIG. 10

Title: PRODUCTION OF OLIGOSACCHARIDES IN
TRANSGENIC PLANTS

Inventors: J.C.M. Smeekens et al.

Docket No.: ARNO121867

Sequence of cDNA encoding 6-SFT from barley

GCTCAGAATCTACCAAACCTCTCGGAGTTGACGAGCGGCGCCGCATGGGGTACACGGC
MatGlySerHisGly
AAGCCACCGCTACCGTACGCCTACAAGCCGCTGCCCTCGGACGCGCCGACGGTAAGCGG
LysProProLeuProTyrAlaTyrLysProLeuProSerAspAlaAlaAspGlyLysArg
ACCGGCTGCATGAGGTGGTCCGCGTGTGCCACCGTGCTGACGGCCTCGGCCATGGCGGTG
ThrGlyCysMetArgTrpSerAlaCysAlaThrValLeuThrAlaSerAlaMetAlaVal
GTGGTGGTCCGCGCCACGCTCCTGGCGGGATTGAGGATGAGCAGGCGCTCGACGAGGAG
ValValValGlyAlaThrLeuLeuAlaGlyLeuArgMetGluGlnAlaValAspGluGlu
GCGGCGGCGGGCGGGTTCCCGTGAGCAACGAGATGCTGCAGTGGCAGCGCAGCGGTTAC
AlaAlaAlaGlyGlyPheProTrpSerAsnGluMetLeuGlnTrpGlnArgSerGlyTyr
CATTTCCAGACGGCCAAGAATACTACATGAGCGATCCCAACGGCCTGATGTATTACCGTGGG
HisPheGlnThrAlaLysAsnTyrMetSerAspProAsnGlyLeuMetTyrTyrArgGly
TGGTACCACATGTTCTACCACTACAACCCGGTGGGCACCGACTGGGACGACGGCATGGAG
TrpTyrHisMetPheTyrGlnTyrAsnProValGlyThrAspTrpAspAspGlyMetGlu
TGGGGCCACGCGGTGTCCCGGAACCTTGTCGAATGGCGCACCTCCCTATCGCCATGGTG
TrpGlyHisAlaValSerArgAsnLeuValGlnTrpArgThrLeuProIleAlaMetVal
GCCGACCAGTGGTACGACATCCTCGGAGTCCTCTCGGGCTCCATGACGGTGCTACCCAAC
AlaAspGlnTrpTyrAspIleLeuGlyValLeuSerGlySerMetThrValLeuProAsn
GGGACGGTCATCATGATCTACACGGGCGCCACCAACGCCCTCCGCGGTGGAGGTCCAGTGC
GlyThrValIleMetIleTyrThrGlyAlaThrAsnAlaSerAlaValGluValGlnCys
ATCGCCACCCCGGCGGACCCCAACGACCCCTCCTCCGCGGTGGACCAAGCACCCCGCC
IleAlaThrProAlaAspProAsnAspProLeuLeuArgArgTrpThrLysHisProAla
AACCCCGTCATCTGCTCGCCGCGCGGGGTGCGCACCAAGGATTTCCGAGACCCGATGACC
AsnProValIleTrpSerProProGlyValGlyThrLysAspPheArgAspProMetThr
GCCTGGTACGACGAGTCCGACGAGACATGGCGCACCTCCTCGGGTCCAAGGACGACCAC
AlaTrpTyrAspGluSerAspGluThrTrpArgThrLeuLeuGlySerLysAspAspHis
GACGGCCACCACGACGGCATCGCCATGATGTACAAGACCAAGGACTTCCTCAACTACGAG
AspGlyHisHisAspGlyIleAlaMetMetTyrLysThrLysAspPheLeuAsnTyrGlu
CTCATCCCGGCATCTTGACCCGGGTGGTGCACCGGCGAGTGGGAGTGCATCGACTTC
LeuIleProGlyIleLeuHisArgValValArgThrGlyGluTrpGluCysIleAspPhe
TACCCCGTCCGCGGAGAAGCAGCGACAACCTCGTCGGAGATGCTGCACGTGTTGAAGGCG
TyrProValGlyArgArgSerSerAspAsnSerSerGluMetLeuHisValLeuLysAla
AGCATGACGACGAACGGCAGCACTACTACTCGCTGGGCACGTACGACTCGGCGGCCAAC
SerMetAspAspGluArgHisAspTyrTyrSerLeuGlyThrTyrAspSerAlaAlaAsn
ACGTGGACGCCCATCGACCCGGAGCTCGACTTGGGGATCGGGCTGAGATACGACTGGGGA
ThrTrpThrProIleAspProGluLeuAspLeuGlyIleGlyLeuArgTyrAspTrpGly

AAGTTTTATGCGTCCACCTCCTTCTATGATCCGGCCAAGAACCGGCGCGTGCATGGGG
LysPheTyrAlaSerThrSerPheTyrAspProAlaLysAsnArgArgValLeuMetGly
TACGTCCGGGAGGTGCACTCCAAGCGGGCTGATGTCTCAAGGGATGGGCTTCCATTGAG
TyrValGlyGluValAspSerLysArgAlaAspValValLysGlyTrpAlaSerIleGln
TCAGTTCCTAGGACGGTGGCTCTGGATGAGAAGACCCGGACGAACCTCCTGCTCTGGCCC
SerValProArgThrValAlaLeuAspGluLysThrArgThrAsnLeuLeuLeuTrpPro
GTTGAGGAGATCGAGACCCTCCGCCTCAATGCCACGGAACCTGACCGACGTTACCATTAACT

FIG. 8 II

Title: PRODUCTION OF OLIGOSACCHARIDES IN
TRANSGENIC PLANTS

Inventors: J.C.M. Smeekeens et al.

Docket No.: ARNO121867

ValGluGluIleGluThrLeuArgLeuAsnAlaThrGluLeuThrAspValThrIleAsn
ACTGGCTCCGTCATCCATATCCCGCTCCGCAAGGCACTCACGCTCGACATGCGGAGGCC
ThrGlySerValIleHisIleProLeuArgGlnGlyThrHisAlaArgHisAlaGluAla
TCTTTCCACCTTGATGCTTCCGCGCTGGCTGCCCTCAACGAGGCCGATGTGGGCTACAAC
SerPheHisLeuAspAlaSerAlaValAlaAlaLeuAsnGluAlaAspValGlyTyrAsn
TGCAGTAGCAGCGCGCGCTGTTAACCAGCGCGCTAGGCCCTTCGGCCTCCTCGTC
CysSerSerSerGlyGlyAlaValAsnArgGlyAlaLeuGlyProPheGlyLeuLeuVal
CTCGCCGCGGCTGACCGCGCTGGCGAGCAAACGGCGGTCTACTTCTACGTGTCTAGGGGC
LeuAlaAlaGlyAspArgArgGlyGluGlnThrAlaValTyrPheTyrValSerArgGly
CTTGACGGAGGCCTCCACACCAGCTTCTGCCAAGATGAGCTGAGATCGTCACGAGCCAAG
LeuAspGlyGlyLeuHisThrSerPheCysGlnAspGluLeuArgSerSerArgAlaLys
GATGTGACCAAGCGTGTCTATCGGGAGCACGGTGCCGGTGCTCGACGGTGAGGCTTTGTCA
AspValThrLysArgValIleGlySerThrValProValLeuAspGlyGluAlaLeuSer
ATGAGGGTGCTCGTGGATCACTCCATCGTGCCAGGGCTTCGACATGGGCGGGAGGACCACG
MetArgValLeuValAspHisSerIleValGlnGlyPheAspMetGlyGlyArgThrThr
ATGACCTCGCGGTGTACCCGATGGAGTCGTATCAGGAGGCAAGAGTCTACTTGTTC AAC
MetThrSerArgValTyrProMetGluSerTyrGlnGluAlaArgValTyrLeuPheAsn
AACGCCACCGGTGCCAGCGTGACGGCGGAAAGGCTGGTCTGTCACGAGATGGACTCGGCA
AsnAlaThrGlyAlaSerValThrAlaGluArgLeuValValHisGluMetAspSerAla
CACAAACCAGCTCTCCAATGAGGACGATGGCATGTATCTTCATCAAGTTCTTGAATCTCGT
HisAsnGlnLeuSerAsnGluAspAspGlyMetTyrLeuHisGlnValLeuGluSerArg
CATTAAATAAGCTACATTGGATCAAAGAAGATCACCAGGGAAAGGCCAATTCATACATAAAT
His
CGAATCATTCTGCACAACCTCGCTTGCCAGCATGCATTGAAACATCTGTATTTGGATCATC
TTCTTCATTTATGTCATAGTGAACCTATATTACTTTGTAAAAA

FIG. 8 (CONTINUED)

11

Title: PRODUCTION OF OLIGOSACCHARIDES IN
TRANSGENIC PLANTS

Inventors: J.C.M. Smeekens et al.

Docket No.: ARNO121867

	86	115	125	132	157	164	220	229	280	290	343	353
H.v. 6sft	HFQtaKNY.MsDEmGLAY..YrGmYHmFYQYNP	MeWGHAVS	..LSGmTVL	DFRDPmTAWY	eWECIdEYPVg	DwGK.FYASTsF						
V.r. Inv	HFQPEKNW.MMDmPmPY..YKGMVHmFYQYNP	IVWGHAVS	..WtGSATIL	DFRDETTAWI	MWECVDFFPVS	DYGi.FYASKtF						
D.c. Inv	HFQPNqNW.MMDmPmPli..YKGMVHmFYQYNP	IVWGHAVS	..WtGSATIL	DFRDETTAWI	MWECVDFFPVS	DYGi.FYASKtF						
L.e. Inv	HFQPNqNW.MMDmPmPli..YKGMVHmFYQYNP	IVWGHAVS	..WtGSATIL	DFRDETTAWI	MWECVDFFPVS	DYGi.FYASKtF						
D.c. CWInv	HFQPKqNW.MMDmPmPY..YKGMVHmFYQYNP	IVWGHAVS	..WtGSATIL	DFRDETTAWI	MWECVDFFPVS	DYGi.FYASKtF						
A.s. InvMGPmY..YNGiYHssYQYNP	IVWGHAVS	..WtGSATIL	DFRDETTAWI	MWECVDFFPVS	DYGi.FYASKtF						
E.c. Inv	HLaPpaGW.MMDmPmPY..YKGMVHmFYQYNP	IVWGHAVS	..WtGSATIL	DFRDETTAWI	MWECVDFFPVS	DYGi.FYASKtF						
S.m. Scrib	HiePktGL.MMDmPmPY..YKGMVHmFYQYNP	IVWGHAVS	..WtGSATIL	DFRDETTAWI	MWECVDFFPVS	DYGi.FYASKtF						
B.p. LeLa	BysPEKNW.MMDmPmPY..YKGMVHmFYQYNP	IVWGHAVS	..WtGSATIL	DFRDETTAWI	MWECVDFFPVS	DYGi.FYASKtF						
B.s. Sacc	HysPEKNW.MMDmPmPY..YKGMVHmFYQYNP	IVWGHAVS	..WtGSATIL	DFRDETTAWI	MWECVDFFPVS	DYGi.FYASKtF						
K.m. Inu	HftPshGW.MMDmPmPY..YKGMVHmFYQYNP	IVWGHAVS	..WtGSATIL	DFRDETTAWI	MWECVDFFPVS	DYGi.FYASKtF						
S.c. Inv1	HftPshGW.MMDmPmPY..YKGMVHmFYQYNP	IVWGHAVS	..WtGSATIL	DFRDETTAWI	MWECVDFFPVS	DYGi.FYASKtF						
S.o. Inv	HftPEKNW.MMDmPmPY..YKGMVHmFYQYNP	IVWGHAVS	..WtGSATIL	DFRDETTAWI	MWECVDFFPVS	DYGi.FYASKtF						
A.n. Inv	Hv1PpnGq.igDpClhytDpstGlfhvqFlhdG	...ssAtt	avEdGs.VI.	aFRDPYVFGn	tNagrwafNfe	DwGfssYAAagk						
B.a. SacB	gldVWDsWPLqnaD.gtvaeyNG.YHwvFalag	MEYqkvGd	qEMSGSATf.	CLDPH..YV	k.rdaelaNGa	DiymLGVS. n						
B.s. SacB	gldVWDsWPLqnaD.gtvanYbG.YHivFalag	MEYqkvGd	qEMSGSATf.	CLDPH..YV	k.rdaelaNGa	DiymLGVS. n						
S.m. SacB	gldVWDsWPLqnaD.gevinWNG.YqlvvaamG	LIYnkyGd	qEMSGSATV.	aMRDPH..VI	mYnrAsvaNaa	nvvmLGVS. d						
Z.m. LevU	...VNDtWPLrDiW.gqvvsFqG.WsvlFalva	yFYsigGS	.EMSGctim.	DFRDPHV.fI	tpdgArycaaa	pdGvyGfVSE n						
	I	II	III	IV	V							

FIG. 12

Title: PRODUCTION OF OLIGOSACCHARIDES IN
TRANSGENIC PLANTS

Inventors: J.C.M. Smeekens et al.

Docket No.: ARNO121867

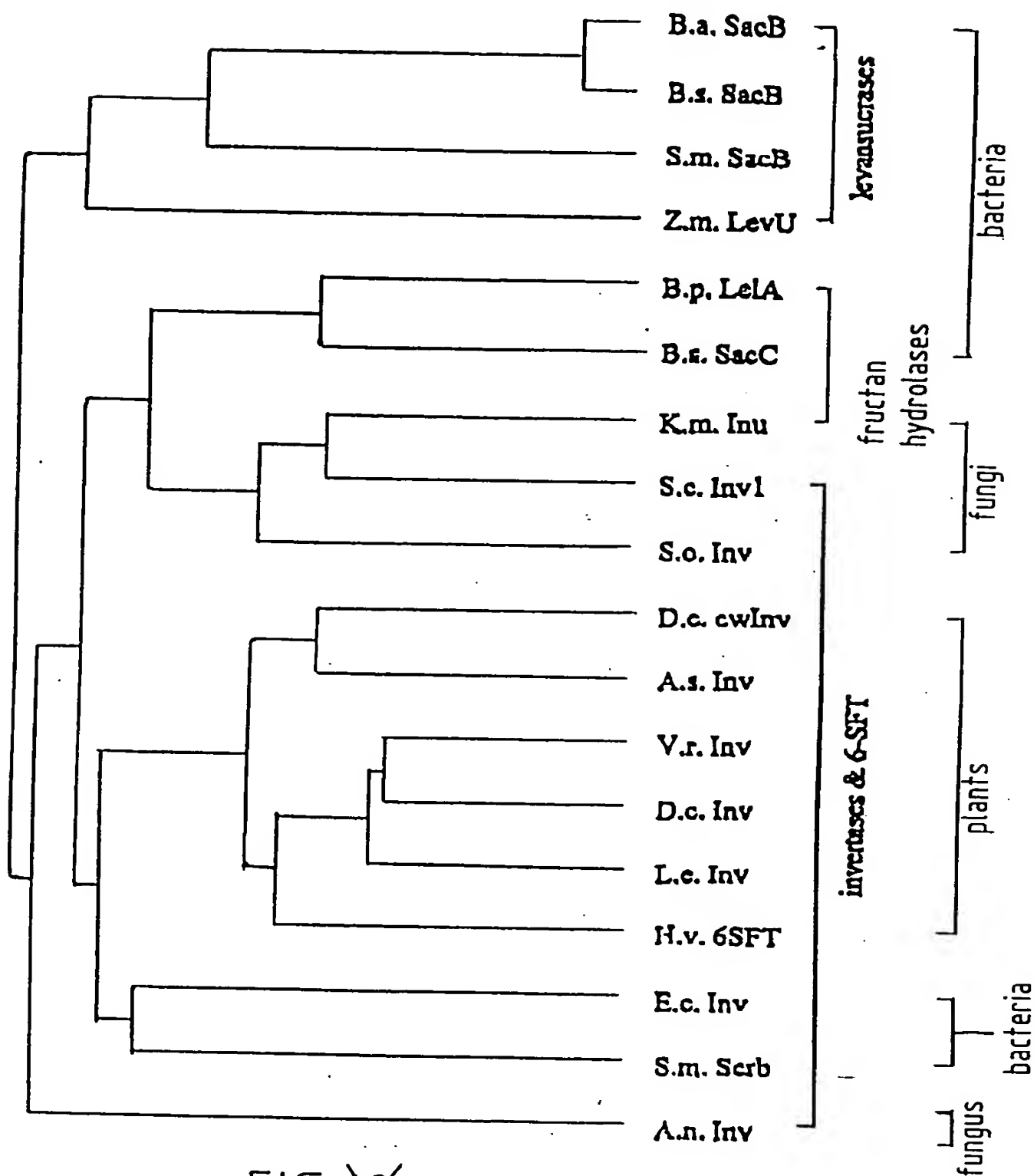
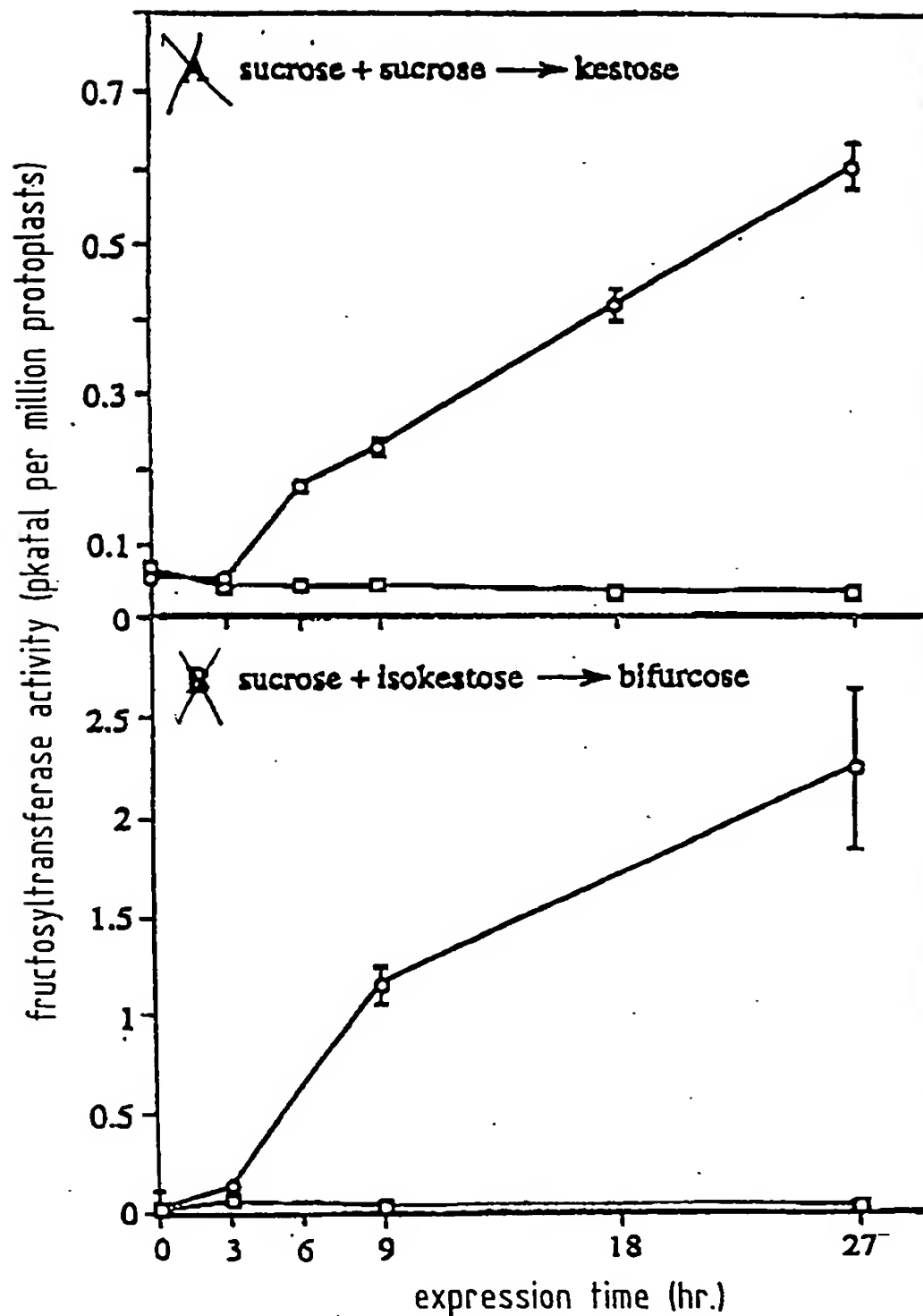


FIG. ~~10~~ 13

Title: PRODUCTION OF OLIGOSACCHARIDES IN
TRANSGENIC PLANTS

Inventors: J.C.M. Smeekens et al.

Docket No.: ARNO121867



~~FIGS 14 and 15~~

IEF (*Helianthus tuberosus* FFT)

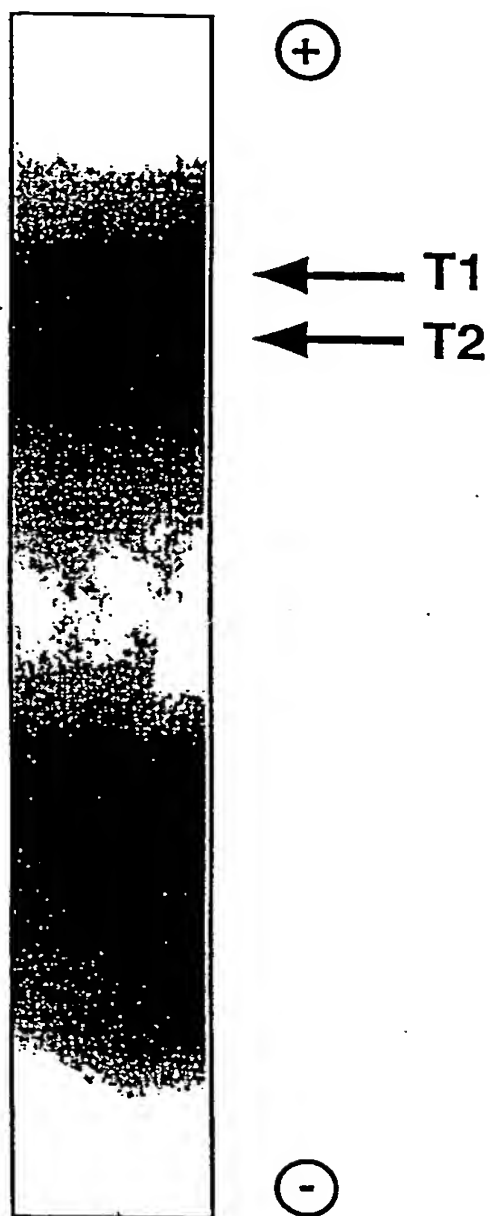
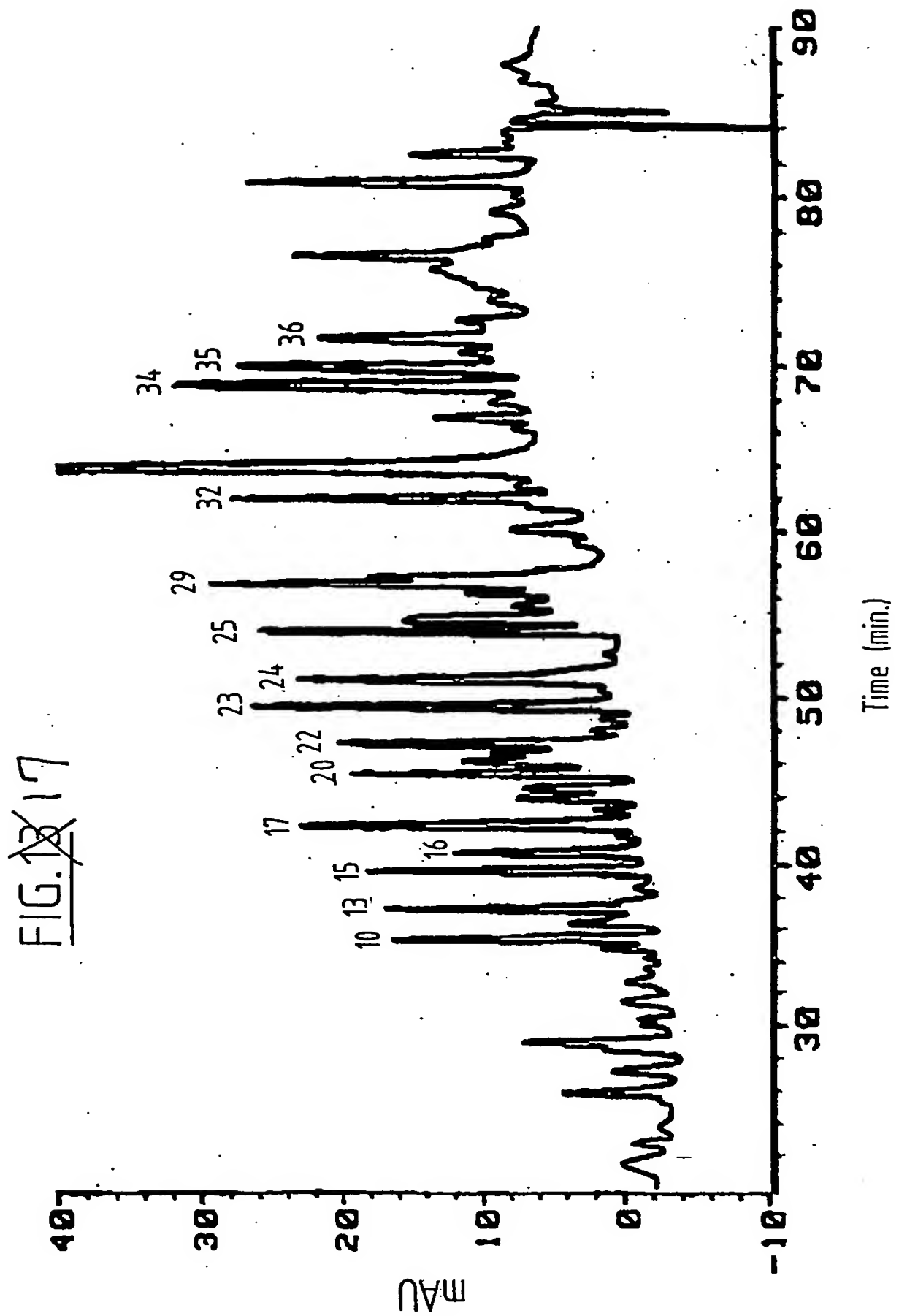


FIG. ~~12~~ 16

Title: PRODUCTION OF OLIGOSACCHARIDES IN
TRANSGENIC PLANTS

Inventors: J.C.M. Smeekens et al.

Docket No.: ARNO121867



Title: PRODUCTION OF OLIGOSACCHARIDES IN
TRANSGENIC PLANTS

Inventors: J.C.M. Smeekens et al.

Docket No.: ARNO121867

